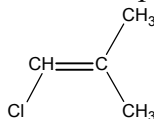


DIMETHYLVINYL CHLORIDE

CAS No. 513-37-1

First Listed in the *Sixth Annual Report on Carcinogens*



CARCINOGENICITY

Dimethylvinyl chloride (1-chloro-2-methyl-1-propene) is *reasonably anticipated to be a human carcinogen* based on sufficient evidence of carcinogenicity in experimental animals (NTP 316, 1986). When administered by gavage, dimethylvinyl chloride increased the incidences of adenocarcinomas and carcinomas of the nasal cavity and squamous cell papillomas or carcinomas of the oral cavity, esophagus, and forestomach in rats of both sexes. When administered by gavage, the compound increased the incidences of squamous cell carcinomas of the forestomach in mice of both sexes and squamous cell carcinomas of the preputial gland.

There are no data available to evaluate the carcinogenicity of dimethylvinyl chloride in humans.

PROPERTIES

Dimethylvinyl chloride is a clear, colorless liquid which is extremely volatile and flammable at room temperature. It is very soluble in chloroform and soluble in acetone, alcohol, and ether. When heated to decomposition, dimethylvinyl chloride emits highly toxic fumes of hydrochloric acid and other chlorinated compounds.

USE

Dimethylvinyl chloride is used primarily in organic syntheses (Merck, 1983). It is also used as a chemical intermediate for the production of isobutylene compounds for laboratory use (SRI, 1982).

PRODUCTION

Dimethylvinyl chloride is not produced domestically for commercial use (USEPA, 1985). However, it occurs as a by-product from the synthesis of 3-chloro-2-methylpropene (methallyl chloride) from isobutylene (SRI, 1982). No data on the production, import, or export of dimethylvinyl chloride were reported by the USITC or the TSCA Inventory.

EXPOSURE

The primary route of potential human exposure to dimethylvinyl chloride is inhalation. Occupational exposure to dimethylvinyl chloride may occur during the production of 3-chloro-2-methylpropene, and there is only one U.S. manufacturer of 3-chloro-2-methylpropene. In 1985,

the EPA estimated that only 8-12 workers were potentially exposed to dimethylvinyl chloride (noncontinuously) during the production of 3-chloro-2-methylpropene (USEPA, 1985). Dimethylvinyl chloride was not listed in the National Occupational Exposure Survey or the National Occupational Hazard Survey conducted by NIOSH.

REGULATIONS

Dimethylvinyl chloride is not regulated by the CPSC, EPA, FDA, or NIOSH. OSHA regulates dimethylvinyl chloride under the Hazard Communication Standard and as a chemical hazard in laboratories. Regulations are summarized in Volume II, Table B-55.